BRANCHING OUT
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Rhododendron Problems: More Than Just Phytophthora

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Phytophthora sp. root rot and shoot blights can be devastating to Rhododendrons, landscape plants that when otherwise healthy, are much treasured for their evergreen foliage and showy spring bloom. But in my 25 year career as a commercial and residential horticulturist, *Phytophthora* is not the cause of most of the problems I see. Instead, unthrifty plants are afflicted with other, sometimes preventable, maladies. Below are some of the more common issues that I see on Rhododendrons.

Cultural and Site-related Problems

Rhododendrons are woodland plants that prefer moist, acid organic soil, and protection from full sun and wind. Clay soil can contribute to Rhododendron stress; poor drainage and lack of organic matter create conditions favorable to disease and pH problems.

Interveinal chlorosis due to iron deficiency is a common problem in the landscape, especially in areas with a neutral to high pH. Leaching of calcium compounds from concrete home foundations can be a culprit in foundation-planted Rhododendrons. Soil amendment with elemental sulfur or ammonium sulfate can help correct this problem by lowering the pH, making iron in the soil available to the plant.

Yellowing of the tissue between the veins while the veins remain green is called interveinal chlorosis. Photo © D.D. O'Brien

Desiccation injury can occur in summer during drought conditions, and also from drying winter wind. Leaves with curled-under, browned margins are often a sign of desiccation injury. Leaf margins lose water, and cell death occurs when available soil moisture is not enough to replace what is lost due to transpiration, whether from drought or frozen soil. Application of organic mulch and supplemental watering when necessary can help prevent this problem, as can selecting a protected site away from wind and full sun.

Disease Problems

***Botryosphaeria* Canker and Dieback** is a common disease often infecting plants with environmental stresses such as cold temperature injury and drought stress. Random dying branches appear on healthy-looking plants, and infected leaves on infected twigs wilt, roll up, turn brown, and remain on the plant. Eventually, cankers may develop and girdle the branch. Corrective measures include soil amendment with organic matter, and acidifier if required, mulching, and supplemental watering when necessary, and pruning out affected plant parts. Treatment with a registered fungicide is an option if disease severity necessitates.

Leaf Spot diseases caused by *Cercospora, Botrytis,* and other fungi are characterized by brown spots with discrete margins. They are usually not severe enough to warrant fungicide treatment, and their damage can be minimized with cultural measures such as pruning of affected plant parts and prompt removal of fallen leaves. Thin dense plants and avoid overcrowding to improve air circulation.

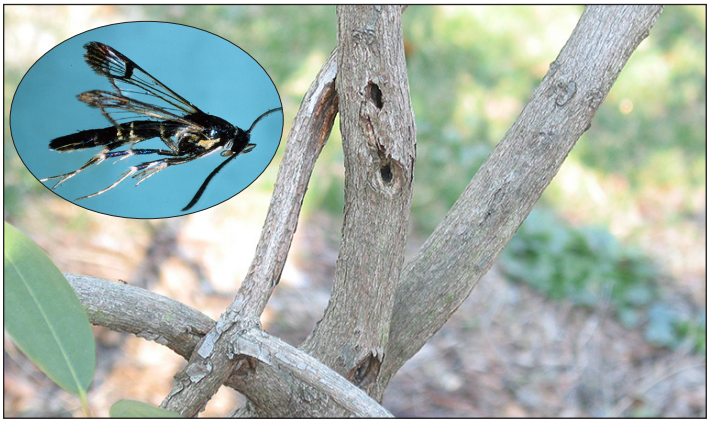
Fungal leaf spots on Rhododendron © D.D. O'Brien

Insect Problems

Rhododendron Gall Midge, *Clinodiplosis rhododendri* damages foliar buds and newly emerging leaves, causing feeding damage resulting in deformation and stunting of new leaves. The insect pupates in the soil, and adults emerge as foliar buds swell, during peak bloom time. Eggs are laid in inrolled edges of newly formed leaves. Larvae hatch and feed on the young leaves, causing deformation and stunting, as leaf expansion occurs around the necrotic feeding damage. Then within about a week the larvae drop to the ground to pupate. Overcrowded plants are more susceptible to damage. If treatment with insecticide is necessary, it should be carefully timed with foliar bud break and new leaf emergence.

Damage symptoms from Rhododendron gall midge can vary, but often small raised yellow spots are associated with it, as well as distortion and stunting © Dan Gilrein

Rhododendron Borer, *Synanthedon rhododendri* is a clearwing moth borer affecting Rhododendron and deciduous azalea. Damage usually becomes visible in Fall, appearing like drought stress. Wilting of branches and dieback occur in spring as overwintering larvae feed and tunnel within the branches. Larvae pupate inside the branch, and adults emerge in late May. Eggs are laid in bark cracks. Look for small holes on branches, especially near branch crotches as a sign of Rhododendron borer activity. Chemical treatments should be timed to adult emergence; affected branches can also be pruned out.



Holes in rhododendron stem from rhododendron borer © D.D. O'Brien. Inset: Adult rhododendron borer © J.A. Davidson, Univ. Md, College Pk, Bugwood.org

Black Vine Weevil, *Otiorhynchus sulcatus* is a serious insect pest of Rhododendron. Both the adult and larval stages of this insect damage the plant. Black vine weevil adult damage appears as notching of the leaf margins. The weevil adults, which are black with brown specks and about ¼ inch long, feed at night. Weevil larvae, which are 3/8 inch long and white with brown heads, spend their entire lives underground and feed on plant roots. Larval damage is far more serious to the plant than adult damage. Severe root damage manifests as discoloration and wilting of foliage and, eventually, death of the plant. Lighter infestation can cause damage appearing like nutrient deficiency, leaf drop, and stunted growth.

Insecticide treatment for black vine weevil can be challenging, since the insects seem to be resistant to many pesticides. Treating the foliage and soil surface with alternating pesticides every three weeks beginning in May can be effective.

Feeding from adult black vine weevil causes marginal notching. It is the hidden feeding damage from the larvae on the roots that can be highly destructive and result in death of the plant. Inset: Adult black vine weevil. Both photos © D.D. O'Brien

Lace Bug, *Stephanitis* spp. adults and nymphs damage their azalea and Rhododendron hosts with piercing/sucking mouthparts. Adults are approximately 1/16 inch long, with dark bands on their wings, and nymphs are smaller, black, and spiny. Damage appears on foliage as minute stippling and yellowing as chlorophyll is removed. Plants in full sun are more seriously damaged, and azaleas grown in sun can be killed by lace bug infestation. The presence of lace bug can be confirmed by checking lower leaf surfaces for the insect or spots of its shiny, black waste. This pest overwinters as eggs on or in leaves.

Resistant cultivars of azalea exist; when pesticide spraying is necessary, coverage of the underside of leaves is important.

Lace bug feeding causes stipling on Rhododendron very similar to this photo of lacebug feeding damage on andromeda © D.D. O'Brien. Inset: Adult rhododendron lacebug Jim Baker, North Carolina State University, Bugwood.org

Azalea Bark Scale, *Eriococcus azalea*e also damages its host by sucking plant fluids. Nymphs overwinter in bark cracks and branch crotches, and mature into 3 mm adults with fluffy white coverings. Eggs hatch in summer months. Large infestations of this pest can cause dieback.

Sooty mold is a secondary effect of soft scale presence which is also damaging to the plant. Azalea bark scale, like other soft scales, produces sweet, sticky honeydew as its waste. Sooty mold fungi do not infect the plant, but they grow on the sweet secretions. The dark mycelium of sooty mold can effectively cover the leaves (and any other parts honeydew lands on). This reduces photosynthesis by limiting the amount of sun the plant receives, contributing to the discoloration and senescence of affected leaves.

Azalea bark scale can be effectively treated with a delayed dormant spray of horticultural oil for overwintering pests, repeating in summer for the crawler stage. Sooty mold is stubborn, but can be washed off where severe.

Sooty mold on rhododendron leaves and branches from azalea bark scale. Inset: Closeup of azalea bark scale on rhododendron stem. Both photos © Dan Gilrein

While there are many more insect and disease pests of Rhododendron and azalea, the above represent a sampling of issues that appear frequently. Many of these problems can be alleviated or prevented with site related and cultural considerations. When pesticide treatment is necessary, consult the *Cornell Pest Management Guide for Commercial Production and Maintenance of Trees and Shrubs* for registered products, growing degree days, and plant phenological indicators.